

CLAIMS

1. Method for separating a cast lens (1) from a shell mold (2; 3), **characterised in that** a separating tool (9) is guided with a force on the lens along the interface between the lens (1) and the shell mold (2, 3).
2. Method according to claim 1, **characterised in that** the force is controlled according to a profile dependent on the angle of rotation of the shell mold (2, 3).
3. Method according to claim 1 or 2, **characterised by the steps:**
 - Fixing a composite (4) consisting of the lens (1) and one or two shell molds (2; 3) onto a holding device (7) rotatable on an axis of rotation (5) whereby the angle of rotation of the shell mold (2, 3) to be separated is designated as angle of rotation θ ,
 - Adjusting a height of the separating tool (9) or the holding device (7) and applying the force to the separating tool (9) so that the separating tool (9) presses against the lens (1) adjacent to the interface (13) between the shell mold (2; 3) to be separated and the lens (1), and
 - Rotating the holding device (7), whereby the height of the separating tool (9) or the height of the holding device (7) is adjusted to the course of the height of the interface (13) according to the actual angle of rotation θ .
4. Method according to any of claims 1 to 3, whereby the shell mold fixed to the holding device (7) is designated as rear shell mold (3), **characterised in that** a further force is applied to the front shell mold (2) or the lens (1) when the rear shell mold (3) is to be separated from the lens (1) and that the further force is already built up as a tensile force at the start of the separation process or at least before the lens (1) and the shell mold (2, 3) to be separated are completely separated from each other.
5. Device for separating a lens (1) cast between a front and a rear shell mold (2, 3) from the two shell molds (2, 3), **characterised by**
 - A holding device (7) rotatable on a first axis of rotation (5), on which the rear shell mold (3) can be fixed, whereby the rotational position of the shell mold (2, 3) to be separated is characterised by an angle of rotation θ ,
 - a gripper (8) rotatable on a second axis of rotation (17) for exerting a force on the front shell mold (2) or, after its removal, on the lens (1),

- a force transmitter (10) and a separating tool (9) rotatable on a third axis of rotation (33) and that is pressed laterally against the lens (1) by means of the force transmitter (10),

- a first motor (6) for rotating the holding device (7) or the separating tool (9),

- a second motor (11) for adjusting a height H of the separating tool (9) or the holding device (7) measured along the first rotational axis (5),

- a control unit (12) that controls the second motor (11) so that the separating tool (9) presses on the lens (1) adjacent to the interface (13) between the shell mold (2, 3) to be separated and the lens (1), whereby the height H of the separating tool (9) or the holding device (7) follows the height of the interface (13) between the shell mold (2, 3) to be separated and the lens (1) dependent on the angle of rotation θ .

6. Device according to claim 5, **characterised in that** the control unit (12) controls the force exerted by the force transmitter (10) according to a profile dependent on the angle of rotation θ .

7. Device according to claim 5 or 6, **characterised in that** the separating tool (9) bears on and is rotatable on a second axis (33).

8. Device according to claim 7, **characterised in that** the third axis of rotation (33) of the separating tool (9) is inclined by a predetermined angle (α) in relation to the first axis of rotation (5).

9. Device according to claim 7, **characterised in that** the third axis of rotation (33) of the separating tool (9) is adjustable in relation to the first axis of rotation (5).

10. Device for separating a lens (1) cast between a front and a rear shell mold (2, 3) from the two shell molds (2, 3), **characterised by**

- a separating tool (9) with a straight separating means (38),

- several holding devices (7) rotatable on an axis and on which the rear shell mold (3) can be fixed, each with a motor (40) in order to adjust a height of the holding device (7) relative to the separating means (38),

- a linear conveyor drive (39) that transports the holding devices (7) parallel to the separating means (38), whereby the lenses (1) roll on the separating means (38), and

- a control unit (12) that individually controls the motors (40) of the holding devices (7) so that the height of the lens (1) follows the height of the interface between the lens (1) and the shell molds (2; 3) to be separated from the lens (1).